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EXAMINER

LAMPRECHT, JOEL

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3737

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-66 are rejected under 35 U.S.C. 102(e) as being anticipated by Prince et al (US 6,892,089 B1). Prince et al disclose a method and system for measuring and generating a sequence of cardiac motion images including definition of reference points, measurement points (Col 6 Line 55-Col 8 Line 60, Col 9 Line 10-Col 10 Line 25), tracking software for developing motion vectors and derivations of acceleration/speed from data including length, change of length, motion direction, speed, acceleration (Col 16 Line 50-Col 18 Line 15, Col 13 Line 24-Col 15 Line 45), comparative measurements of speed/acceleration/direction across multiple points (Col 18 Line 10-15, Line 30-50), 1d/2d search fields (Col 15 Line 5-Col 19 Line 45, Col 16 Line 65-Col 17 Line 35, Col 13 Line 40-Col 14 Line 20), as well as normalization of the contrast/intensity/brightness of the image sequence (Example 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prince et al in view of Acharya (US 2003/0045803 A1). Prince as recited above, discloses the invention as claimed, except the scanning device of Prince is an MR device.

Projections and mapping withstanding, attention is directed to the secondary reference to Acharya which discloses scanning with a CT device for cardiac motion analysis and estimation (Page 1). The heart is isolated (Page 2, Paragraphs 19-25) and motion signatures for physiological locations within the heart are projected [0026] for automated processing [0026-0029]. It would have been obvious to have applied the algorithms and processing of motion data of Prince et al with the scanning device of Acharya for the formation of diagnostically relevant reconstructed images of a moving organ (such as the heart [0019-0020])

### ***Response to Arguments***

Applicant's arguments filed 3/9/2010 have been fully considered but they are not persuasive. Applicant has first argued that Prince et al does not disclose definition of a reference point, and measurement point(s) during image analysis. As noted by Applicant, Col 17-18 shows multiple measurement points being used to determine strain(s) and iteratively apply algorithms to HARP images. Prince et al uses a (Fig 6 and discussion, and Col 24 Line 45-65) reference coordinate system to track absolute position of these measurement points versus a reference, and the displacement of the points relative to themselves and one-another is used for analysis. The reference point itself can also be (as from the discussion of figure 6) position at a T=0 (end systole or diastole and coordinate shifts can be based off of the position relative to T=0 during analysis.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOEL M. LAMPRECHT whose telephone number is (571)272-3250. The examiner can normally be reached on 8:30-5:00 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/  
Supervisory Patent Examiner, Art  
Unit 3737

JML